

ART. XIII.—*Australian Aboriginal Stone Implements.*  
*A suggested Classification.*

BY A. S. KENYON AND D. L. STIRLING.

(With Plates XXV—XXXIII).

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(Communicated by Professor Baldwin Spencer).

It appears hardly necessary to enlarge on the need for a classification of the stone implements of the Australian Aboriginal. All investigators, as well as collectors, have experienced difficulties through such want. The subject of these stone implements, and their uses is one to which little attention has been paid by writers on the Ethnology of the Australian Aboriginal; R. Brough Smyth in "The Aborigines of Victoria" has dealt with the subject in some detail; but his remarks, being confined only to descriptions of the implements coming under his notice, do not include amongst others, any of the very interesting series of chipped implements of palæolithic type occurring commonly in Victoria. In general, authors, save for cursory remarks as to use of other stone implements, have confined their attention to the ground cutting edged implements, generally known as "Blackfellow's axes or tomahawks." These tools are so easily recognisable that they are readily picked up by others than collectors, and are to be found in number in all collections. Other stone implements, even when so distinctive in shape as grinding mills or sharpening stones, are not so easily recognised by the non-collector, and they are contained in few collections. The less distinctive implements have not been described, and when occurring in collections, are frequently wrongly labelled. A further reason for the undue preponderance of axes or tomahawks in collections is that they are found scattered over the whole country, while almost all the other implements are found at the sites of camps only, being chiefly used in domestic operations.

Mr. Smyth<sup>1</sup> divided the stone implements used by the natives into eleven groups, which were:—

- a.* Hatchets.
- b.* Knives.
- c.* Adzes.
- d.* Chips of basalt for jagged spears.
- e.* Chips of basalt for cutting and scraping skins of animals, etc.
- f.* Stones for pounding roots, seeds, etc.
- g.* Stones for sharpening spears and hatchets.
- h.* Stones for fishing.
- i.* Stones used by women in making baskets.
- j.* Stones from which ruddle, etc., are obtained.
- k.* Sacred stones kept by priests and others.

This arrangement does not include “throwing” or “game” stones; and includes, in groups *j* and *k*, ruddle stones, and sacred stones which are hardly properly classed under the term implement. If, as it appears was the intention, the groups were to show all the uses of stone by the aborigines, building and fire stones should also have been included.

Mr. R. Etheridge, Junr.,<sup>2</sup> commenced a tentative classification of the ground cutting edged implements; but, unfortunately, he has not carried out his expressed intention of completing this work,<sup>3</sup> and it is understood that he has abandoned the project.

The writers, in the course of their work in collecting stone implements in Victoria, found it imperative to make a classification of them, and, with a view to eliciting criticisms or suggestions for improvement, now submit this classification to members interested. It is one which they believe will prove of use to the collector, and serve as a guide to investigators. To some of the groups are attributed uses differing from those given by other writers, and some of them have been hitherto unrecognised and undescribed.

Unfortunately, the methods of employment of many of the groups are not known with any degree of certainty; particularly so as regards the stone implements of the aborigines formerly

<sup>1</sup> *Aborigines of Victoria*, vol. i., p. 358.

<sup>2</sup> *Proc. Linn. Soc. N.S.W.*, vol. vi., pt. 3, 1891, p. 357.

<sup>3</sup> *Mem. Geol. Surv. N. S. Wales*; Pal. No. 8, pt. i., p. i., 1890.

inhabiting South Eastern Australia and Tasmania. The classification suggested has, therefore, not been entirely based on methods of use, a system which would appear to be the most satisfactory ; but is, in some cases, dependent upon the apparent mode of preparation or manufacture.

The first step in classification has been to group together all the different implements having distinctive uses. The first group and the most important is that of cutting implements. Next in order come the groups of grinding and pounding implements. Of lesser importance are fishing stones, throwing stones, game stones and basket stones. A distinct group may be required for those implements, the use of which is not definitely known and can hardly at present be conjectured, such as the carrot-shaped stones from the Darling River District, Victoria, etc.

Ceremonial or sacred stones are not considered to come properly under the term implements, and, for like reason, building, fire, and pigment stones are excluded.

The first group of cutting implements, distinguished by C., separate easily into two divisions—A. those having the cutting edge produced by flaking or chipping; B., those having the cutting edge produced by grinding and polishing. The division C. A., is arranged in seven subdivisions, bearing as titles the names of the European tools most nearly representing the uses to which the implements would be put. They are :—I. Axes, II. Rasps, III. Knives, IV. Adzes, V. Scrapers, VI. Spearheads, and VII. Nuclei or Cores. The last is not strictly a proper subdivision ; but it is necessary for the classification of a collection of flaked or chipped edged implements. Subdivision C. A. I., flaked or chipped edge axes, forms two sections, *a*. those having a chipped edge, and *b*. those having a flaked edge. The section C. A. I. *b*. is not further subdivided, there being only one class known, which is the flaked axe, hafted, with a head larger than, but otherwise closely resembling the hafted knives of Central Australia. The section C. A. I. *a*. is subdivided into two classes—1. those chipped on one side only of the cutting edge, and 2. those chipped on both sides. Classes C. A. I. *a*. 1. has two sub-classes, *a*. those with an acute and *β*. those with an obtuse bevel. Neither of these sub-classes have apparently been hafted, being for hand use only. The Tasmanian axes belong to the first sub-class, C. A. I. *a*. 1. *a*.

The class *C. A. I. a. 2*, axes chipped on both sides, has also two sub-classes; *a.* those hafted, comprising the West Australian examples, and *β.* those not hafted. The subdivision *C. A. II.*, Rasps, includes implements which have a concave cutting or scraping edge, used for scraping hafts of spears, waddies, etc., and is not further divided.

The subdivision *C. A., III.*, knives, separates easily into two sections, *a.* those hafted and *b.* those not hafted. The section *C. A., III., a.* has two classes: 1. single flake, and 2. multiple flake. The class *C. A., III., a. 1.*, forms two sub-classes, *a.* chipped and *β.* flaked. These sub-classes comprise the hafted knives of Central Australia. The class *C. A., III., a. 2.*, multiple flake, comprises those knives formed by the placing of a number of small flakes in a setting of gum on a wooden haft; and is not further divided.

The Section *C. A., III., b.* knives not hafted, is subdivided into two classes—1. chipped, and 2. flaked. These classes comprise the Tasmanian knives and many examples from the mainland.

The subdivision *C. A., IV.*, adzes comprises the very fine examples from Central Australia, and the smaller ones from South Eastern Australia, which were generally hafted, and from Tasmania, which were not.

The subdivision *C. A., V.*, scrapers includes a large number of chipped-edged implements, which do not come under the headings of axes or knives; but which, in their limits, approach both of those sub-divisions. Their use is undoubtedly for scraping wooden implements, skins, etc. The sub-division *C. A., VI.*, spearheads, forms two sections *a.* single flake and *b.* multiple flake. The Section *C. A., VI., a.* is subdivided into three classes—1. chipped, 2. flaked and 3. serrated. Classes 1. and 2. resemble one another; but are sufficiently distinct to justify their separation. Class 3. comprises the finest examples of Australian chipping work and, in the form of glass spearheads, are well known.

Section *C. A., VI., b.* multiple flake, resemble the class, *C. A., III., a. 2.* multiple flake knives; but are set in 1, 2, 3 or 4 rows on the spearhead.

The subdivision *C. A. VII.*, as already mentioned, is for purposes of classification of collections only.

The division **C. B.**, cutting implements with edge produced by grinding or polishing, includes four subdivisions:—I. Axes; II. Wedges; III. Knives or Scrapers, and IV. Blanks. The last class axes, etc., in the rough, is simply for collection classification.

As before, the nomenclature, as nearly as possible, gives the uses of these implements as compared with European tools.

The subdivision **C. B. I.** axes, forms two sections: *a.* those grooved for hafting, and *b.* those not grooved for hafting. This separation, though convenient, is not altogether satisfactory, as the title “not grooved for hafting” may imply that these axes were generally hafted. As a matter of fact, it may be agreed that the majority were never used with a haft while those hafted were also frequently used in the hand without the haft. The section **C. B. I. a.** is not further subdivided. The examples at present available are not numerous; it will, however, probably be found necessary to make further subdivisions here.

The section **C. B. I. b.** is divided into six classes: 1. oblong ovate; 2. ovate; 3. deltoid; 4. gad-shaped; 5. adze-shaped; and 6. cone-shaped. The classification is based generally on the shape of the bodies. Class **C. B. I. b. 1.** is divided into four sub-classes, depending upon the nature of the cutting edge. *a.* straight edge; *β.* circular edge; *γ.* parabolic cutting edge; and *δ.* with the edge not in, but inclined to, the plane of the major axis of the cross section of the body. Sub-class **C. B. I. b. 1. γ.** occurs frequently in the Goulburn Valley, Victoria, and **C. B. I. b. 1. δ.** commonly in the Western District of Victoria; they appear to merit separate classification. The class **C. B. I. b. 1.** comprises over 80 per cent. of the examples known to the writers and the sub-class *β.*, circular cutting edge, forms 90 per cent of that class.

Class **C. B. I. b. 2.**, ovate, is not the same as proposed by Mr. Etheridge,<sup>1</sup> judging from the examples figured. His class is included by the writers in the “oblong-ovate” **C. B. I. b. 1.** The axes now included in the ovate class are distinctly ovate both in plan and in cross section. They may possibly be referable to the subdivision, wedges; but the absence of grooves and flattened butt ends, and the excellence of the cutting edges place them preferably in the subdivision “axes.”

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<sup>1</sup> Proc. Linn. Soc., vol. vi., pt. 3, 1891, p. 358.

The class **C. B. I. b. 3.**, deltoid, is the same as that of Mr. Etheridge. The type examples of this class come from N.W. Australia, examples from other parts being apparently accidental, and due, probably, to shape of the pebble used.

Class **C. B. I. b. 4.**, gad-shaped, is very distinct; it is divided into two sub-classes, *a.* cylindrical, and *β.* flattened body.

The examples of sub-class *a.* are all, as far as known, from the Goulburn Valley, Victoria; the sub-class *β.* occur numerously in Gippsland, New South Wales and Queensland.

Class **C. B. I. b. 5.**, adze-shaped, would appear to be doubtful, were it not for the very distinct specimens illustrated by Mr. Etheridge, and for one example in the National Museum, Melbourne. They resemble strongly South Sea implements, and show more specialization than any others described.

Class **C. B. I. b. 6.**, cone-shaped, is very definite, the only examples known to the writers coming from the Goulburn Valley, Victoria.

Subdivision **C. B. 2.**, wedges, comprises implements of axe-shape, and of large size. They are generally of inferior stone, and do not have well polished cutting edges. Almost all the examples known are grooved for hafts or holding-withlies. The different styles of grooving cause them to be divided into four sections:—*a.* With a single transverse groove (the common type); *b.* double transverse groove (rare); *c.* with a longitudinal groove extending from the transverse groove around the butt, evidently intended for firmer attachment of the haft; and *d.* without a groove.

Subdivision **C. B. III.**, knives or scrapers, comprises the small axe-shaped implements, often called "toy tomahawks." Their use is for carving and particularly for scraping and dressing skins for rugs. Although they have distinctive variations in shape and method of preparation, they do not occur in sufficient number to warrant further subdivision.

The second group, grinding implements, distinguished by **Gr.**, is separated into two divisions. A. Kerns or mills, for grinding foodstuffs and pigments, and B. Grinding stones, for fashioning and sharpening other implements.

The division **Gr. A.** forms six subdivisions:—I. Nether stones with husking hole on the lower side, and a spherical hollow; II. Nether stones without the husking hole, and with a spherical







## A Classification of the Australian Aboriginal Stone Implements.

GROUPS.	DIVISIONS (A.)	Subdivisions (1.)	Sections (a.)	Classes (1.)	Sub-Classes (a.)	
C. Cutting Implements	I. Axes	a. chipped	b. flaked	1. chipped one side only	a. acute bevel β. obtuse "	
				2. chipped both sides	a. hafted β. not hafted	
	II. Rasps	a. hafted	b. not hafted	1. single flake	a. chipped β. flaked	
				2. multiple flake		
	III. Knives	a. single flake	b. multiple flake	1. chipped		
				2. flaked		
	IV. Adzes	a. grooved for hafting	b. not grooved for hafting	1. oblong ovate	a. straight cutting edge β. circular cutting edge γ. parabolic cutting edge δ. cutting edge included to plane of major axis	
				2. ovate.		
	V. Scrapers	a. single transverse groove	b. double transverse groove	1. chipped		
				2. flaked		
VI. Spearheads	a. single transverse groove	b. double transverse groove	1. chipped			
			2. flaked			
(VII. Nuclei or Cores)	a. single transverse groove	b. double transverse groove	1. chipped			
			2. flaked			
Grinding Implements	I. Axes	a. single transverse groove	b. double transverse groove	1. oblong ovate	a. cylindrical body β. flattened body	
				2. ovate.		
	II. Wedges	a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
	III. Knives or Scrapers	a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
	IV. (Blanks)	a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
	Gr. Grinding Implements	A. Kerns or Mills	a. single transverse groove	b. double transverse groove	1. oblong ovate	
					2. ovate.	
B. Grinding Stones		a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
I. Nether stones with husking hole, spherical hollow		a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
II. " "		a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
III. " "		a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
IV. " "	a. single transverse groove	b. double transverse groove	1. oblong ovate			
			2. ovate.			
V. " "	a. single transverse groove	b. double transverse groove	1. oblong ovate			
			2. ovate.			
VI. Upper stones	a. single transverse groove	b. double transverse groove	1. oblong ovate			
			2. ovate.			
P. Pounding Implements	A. Hammers	a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
	B. Chipping Hammers	a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
	C. Fibre Pounders	a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
	D. Anvil Stones	a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
	F. Fishing Stones	a. single transverse groove	b. double transverse groove	1. oblong ovate		
				2. ovate.		
T. Throwing Stones	a. single transverse groove	b. double transverse groove	1. oblong ovate			
			2. ovate.			
Ga. Game Stones	a. single transverse groove	b. double transverse groove	1. oblong ovate			
			2. ovate.			
B. Basket Stones	a. single transverse groove	b. double transverse groove	1. oblong ovate			
			2. ovate.			

